

gain waveguide portion is not more than $1/10$ the overall length of said waveguide.

10. A device according to claim 9, further comprising a diffraction grating formed along said waveguide to give optical perturbation to light to be guided,

wherein said gain waveguide portion has a substantially phase shift effect on light guided in said waveguide.

11. A device according to claim 10, wherein said waveguide optical device is a distributed feedback laser which generates laser oscillation in said waveguide, and the phase shift effect of said gain waveguide portion changes in accordance with a bias current or threshold current supplied to said laser.

12. A device according to claim 11, wherein the change in the phase shift effect is so produced as to cancel chirping.

13. A device according to claim 2, wherein the length of said gain waveguide portion is not more than $1/10$ the overall length of said waveguide.

14. A device according to claim 2, further comprising a diffraction grating formed along said waveguide to give optical perturbation to light to be guided,

wherein said gain waveguide portion has a substantially phase shift effect on light guided in said waveguide.

15. A device according to claim 1, wherein the length of said gain waveguide portion is not more than $1/10$ the overall length of said waveguide.

16. A device according to claim 15, further comprising a diffraction grating formed along said waveguide to give optical perturbation to light to be guided,

wherein said gain waveguide portion has a substantially phase shift effect on light guided in said waveguide.

17. A device according to claim 16, wherein said waveguide optical device is a distributed feedback laser which generates laser oscillation in said waveguide, and the phase shift effect of said gain waveguide portion changes in accordance with a bias current or threshold current supplied to said laser.

18. A device according to claim 17, wherein the change in the phase shift effect is so produced as to cancel chirping.

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